

L Number	Hits	Search Text	DB	Time stamp
9	264	560/218.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:48
10	388	562/600.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:48
11	0	5296205.URPN.	USPAT	2004/02/26 05:48
12	0	5296205.URPN.	USPAT	2004/02/26 05:48
13	475	261/97.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:48
14	627	560/218.ccls. or 562/600.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:47
15	319	"gas-injection"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 12:56
17	6821	"beam type"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:49
18	0	(560/218.ccls. or 562/600.ccls.) and "gas-injection"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:49
19	0	(560/218.ccls. or 562/600.ccls.) and "beam type"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:49
20	0	261/97.ccls. and "gas-injection"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:49
21	105834	support adj plate	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:49
22	242	"beam type" and (support adj plate)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:49
23	0	"beam type" near4 (support adj plate)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:49
27	1737	RMax	USPAT	2004/02/26 09:13
28	0	("gas-injection" near4 (support adj plate)) and RMax	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:49
1	2	US-5296205-\$.DID.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:49
30	0	261/97.ccls. and RMax	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:49
2	1		USPAT	2004/02/26 05:49
3	1		USPAT	2004/02/26 05:49
4	1		USPAT	2004/02/26 05:49
5	1		USPAT	2004/02/26 05:49
6	1		USPAT	2004/02/26 05:49
7	1		USPAT	2004/02/26 05:49
8	1		USPAT	2004/02/26 05:49

16	2	261/97.ccls. and (560/218.ccls. or 562/600.ccls.)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:49
24	12	"beam type" same (support adj plate)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 06:20
25	2	"gas-injection" near4 (support adj plate)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 05:49
26	4	4814117.URPN.	USPAT	2004/02/26 05:49
29	1	(560/218.ccls. or 562/600.ccls.) and RMax	USPAT	2004/02/26 05:49
31	1		USPAT	2004/02/26 05:54
32	1		USPAT	2004/02/26 05:54
33	1		USPAT	2004/02/26 05:54
34	1		USPAT	2004/02/26 05:54
35	1		USPAT	2004/02/26 05:55
36	1		USPAT	2004/02/26 05:55
37	1		USPAT	2004/02/26 05:55
38	1		USPAT	2004/02/26 05:56
39	1		USPAT	2004/02/26 05:56
40	1		USPAT	2004/02/26 05:57
41	8	"gas-injection" and (support adj plate)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 06:32
42	5	4576763.URPN.	USPAT	2004/02/26 06:23
43	1		USPAT	2004/02/26 06:25
44	1		USPAT	2004/02/26 06:25
45	1		USPAT	2004/02/26 06:25
46	1		USPAT	2004/02/26 06:25
47	1		USPAT	2004/02/26 06:25
48	1		USPAT	2004/02/26 06:26
49	2	4704139.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 06:34
50	111845	corrugated	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 11:25
51	1	(560/218.ccls. or 562/600.ccls.) and corrugated	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 07:20
52	2	6635148.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 07:21
53	2	6436245.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 07:22
54	1	6695928.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 07:31
56	366209	polymerization	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 07:31
57	2314	corrugated and polymerization	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 07:32
58	180	corrugated same polymerization	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 07:32

59	0	(560/218.ccls. or 562/600.ccls.) and (corrugated same polymerization)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 07:32
60	1	(560/218.ccls. or 562/600.ccls.) and corrugated	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 07:37
61	2	4865819.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 07:40
62	2	5296205.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 12:54
63	7		USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 07:43
64	1		USPAT	2004/02/26 07:43
65	0		USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 07:43
67	3	"03127606"	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 07:53
68	9	RMax and corrugated	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:20
69	555	203/60.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:21
70	155	203/61.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:21
71	635	203/60.ccls. or 203/61.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:21
73	0	corrugated and ((560/218.ccls. or 562/600.ccls.) and (203/60.ccls. or 203/61.ccls.))	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:22
72	32	(560/218.ccls. or 562/600.ccls.) and (203/60.ccls. or 203/61.ccls.)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:25
74	167755	voids	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:26
75	301	210/696.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:26
80	262376	packing	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:32
82	7	210/696.ccls. and packing	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:33

83	185703	distillation	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 09:16
84	20	210/696.ccls. and distillation	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:44
85	2	5762668.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:44
86	366	(560/218.ccls. or 562/600.ccls.) and distillation	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:48
87	1368	packing adj layer	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:48
88	0	((560/218.ccls. or 562/600.ccls.) and distillation) and (packing adj layer)	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:49
89	262376	packing	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 09:15
90	85	((560/218.ccls. or 562/600.ccls.) and distillation) and packing	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 08:50
91	62	RMax and packing	USPAT	2004/02/26 09:13
93	0	RMax same distillation	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 09:16
94	18	RMax and distillation	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 09:22
95	13047	Ry	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 09:22
96	1011	Ry and distillation	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 09:23
97	10	Ry same distillation	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 09:23
98	7897	corrugated and packing	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 11:25
99	2944323	plate	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 11:25
100	9546	corrugated near3 plate	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 11:26
101	635	(corrugated near3 plate) and packing	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 11:26

103	6	((((corrugated near3 plate) and packing) and distillation) and polymerization	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 11:27
102	110	((corrugated near3 plate) and packing) and distillation	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 11:29
104	98183	polymerizable	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 11:30
105	2	((((corrugated near3 plate) and packing) and distillation) and polymerizable	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 11:30
106	18	corregated adj plate	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 12:55
107	3	"gas-injection" near3 plate	USPAT; US-PGPUB; EPO; JPO; DERWENT	2004/02/26 12:57

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
1	BRS	L9	264	560/218.ccls.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:48		
2	BRS	L10	388	562/600.ccls.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:48		
3	BRS	L11	0	5296205.URPN.	USPAT	2004/02/26 05:48		
4	BRS	L12	0	5296205.URPN.	USPAT	2004/02/26 05:48		
5	BRS	L13	475	261/97.ccls.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:48		
6	BRS	L14	627	560/218.ccls. or 562/600.ccls.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:47		
7	BRS	L15	319	"gas-injection"	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 12:56		
8	BRS	L17	6821	"beam type"	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:49		
9	BRS	L18	0	(560/218.ccls. or 562/600.ccls.) and "gas-injection"	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:49		

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	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
10	BRS	L19	0	(560/218.ccls. or 562/600.ccls.) and "beam type"	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:49		
11	BRS	L20	0	261/97.ccls. and "gas-injection"	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:49		
12	BRS	L21	10583 4	support adj plate	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:49		
13	BRS	L22	242	"beam type" and (support adj plate)	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:49		
14	BRS	L23	0	"beam type" near4 (support adj plate)	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:49		
15	BRS	L27	1737	RMax	USPAT	2004/02/26 09:13		
16	BRS	L28	0	("gas-injection" near4 (support adj plate)) and RMax	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:49		
17	BRS	L1	2	US-5296205-\$.DID.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:49		

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18	BRS	L30	0	261/97.ccls. and RMax	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:49		
19	BRS	L2	1	"4011304".PN.	USPAT	2004/02/26 05:49		
20	BRS	L3	1	"4108682".PN.	USPAT	2004/02/26 05:49		
21	BRS	L4	1	"4125597".PN.	USPAT	2004/02/26 05:49		
22	BRS	L5	1	"4189462".PN.	USPAT	2004/02/26 05:49		
23	BRS	L6	1	"4455287".PN.	USPAT	2004/02/26 05:49		
24	BRS	L7	1	"4668405".PN.	USPAT	2004/02/26 05:49		
25	BRS	L8	1	"4719020".PN.	USPAT	2004/02/26 05:49		
26	BRS	L16	2	261/97.ccls. and (560/218.ccls. or 562/600.ccls.)	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:49		
27	BRS	L24	12	"beam type" same (support adj plate)	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 06:20		
28	BRS	L25	2	"gas-injection" near4 (support adj plate)	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 05:49		
29	BRS	L26	4	4814117.URPN.	USPAT	2004/02/26 05:49		
30	BRS	L29	1	(560/218.ccls. or 562/600.ccls.) and RMax	USPAT	2004/02/26 05:49		
31	BRS	L31	1	"2098667".PN.	USPAT	2004/02/26 05:54		
32	BRS	L32	1	"2158229".PN.	USPAT	2004/02/26 05:54		
33	BRS	L33	1	"2283307".PN.	USPAT	2004/02/26 05:54		
34	BRS	L34	1	"2987039".PN.	USPAT	2004/02/26 05:54		
35	BRS	L35	1	"3653845".PN.	USPAT	2004/02/26 05:55		

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36	BRS	L36	1	"4003178".PN.	USPAT	2004/02/26 05:55		
37	BRS	L37	1	"4275018".PN.	USPAT	2004/02/26 05:55		
38	BRS	L38	1	"4452025".PN.	USPAT	2004/02/26 05:56		
39	BRS	L39	1	"4472325".PN.	USPAT	2004/02/26 05:56		
40	BRS	L40	1	"4557876".PN.	USPAT	2004/02/26 05:57		
41	BRS	L41	8	115 and 121	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 06:32		
42	BRS	L42	5	4576763.URPN.	USPAT	2004/02/26 06:23		
43	BRS	L43	1	"2212932".PN.	USPAT	2004/02/26 06:25		
44	BRS	L44	1	"2602651".PN.	USPAT	2004/02/26 06:25		
45	BRS	L45	1	"3266787".PN.	USPAT	2004/02/26 06:25		
46	BRS	L46	1	"3266787".PN.	USPAT	2004/02/26 06:25		
47	BRS	L47	1	"4041113".PN.	USPAT	2004/02/26 06:25		
48	BRS	L48	1	"4067936".PN.	USPAT	2004/02/26 06:26		
49	BRS	L49	2	4704139.pn.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 06:34		
50	BRS	L50	11184 5	corrugated	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 11:25		
51	BRS	L51	1	114 and 150	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 07:20		

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	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
52	BRS	L52	2	6635148.pn.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 07:21		
53	BRS	L53	2	6436245.pn.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 07:22		
54	BRS	L54	1	6695928.pn.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 07:31		
55	BRS	L56	36620 9	polymerization	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 07:31		
56	BRS	L57	2314	150 and 156	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 07:32		
57	BRS	L58	180	150 same 156	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 07:32		
58	BRS	L59	0	114 and 158	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 07:32		

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	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
59	BRS	L60	1	114 and 150	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 07:37		
60	BRS	L61	2	4865819.pn.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 07:40		
61	BRS	L62	2	5296205.pn.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 12:54		
62	BRS	L63	7	12 or 13 or 14 or 15 or 16 or 17 or 18	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 07:43		
63	BRS	L64	1	"4622212".PN.	USPAT	2004/02/26 07:43		
64	BRS	L65	0	114 and 163	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 07:43		
65	BRS	L67	3	"03127606"	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 07:53		
66	BRS	L68	9	127 and 150	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:20		

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59	0
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	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
67	BRS	L69	555	203/60.ccls.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:21		
68	BRS	L70	155	203/61.ccls.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:21		
69	BRS	L71	635	169 or 170	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:21		
70	BRS	L73	0	150 and 172	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:22		
71	BRS	L72	32	114 and 171	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:25		
72	BRS	L74	16775 5	voids	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:26		
73	BRS	L75	301	210/696.ccls.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:26		

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	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
74	BRS	L80	26237 6	packing	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:32		
75	BRS	L82	7	175 and 180	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:33		
76	BRS	L83	18570 3	distillation	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 09:16		
77	BRS	L84	20	175 and 183	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:44		
78	BRS	L85	2	5762668.pn.	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:44		
79	BRS	L86	366	114 and 183	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:48		
80	BRS	L87	1368	packing adj layer	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:48		

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81	BRS	L88	0	186 and 187	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:49		
82	BRS	L89	26237 6	packing	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 09:15		
83	BRS	L90	85	186 and 189	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 08:50		
84	BRS	L91	62	127 and 180	USPAT	2004/02/26 09:13		
85	BRS	L93	0	127 same 183	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 09:16		
86	BRS	L94	18	127 and 183	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 09:22		
87	BRS	L95	13047	Ry	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 09:22		
88	BRS	L96	1011	195 and 183	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 09:23		

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83	0
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86	0
87	0
88	0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
89	BRS	L97	10	195 same 183	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 09:23		
90	BRS	L98	7897	150 and 189	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 11:25		
91	BRS	L99	29443 23	plate	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 11:25		
92	BRS	L100	9546	150 near3 199	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 11:26		
93	BRS	L101	635	1100 and 189	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 11:26		
94	BRS	L103	6	1102 and 156	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 11:27		
95	BRS	L102	110	1101 and 183	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 11:29		

	Err ors
89	0
90	0
91	0
92	0
93	0
94	0
95	0

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
96	BRS	L104	98183	polymerizable	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 11:30		
97	BRS	L105	2	1102 and 1104	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 11:30		
98	BRS	L106	18	corrugated adj plate	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 12:55		
99	BRS	L107	3	115 near3 199	USPAT ; US-PG PUB; EPO; JPO; DERWE NT	2004/02/26 12:57		

	Err ors
96	0
97	0
98	0
99	0

Connecting via Winsock to STN

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LOGINID:SSSPTA1623PAZ

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * Welcome to STN International * * * * *

NEWS	1	Web Page URLs for STN Seminar Schedule - N. America
NEWS	2	"Ask CAS" for self-help around the clock
NEWS	3	SEP 09 CA/CAPLUS records now contain indexing from 1907 to the present
NEWS	4	DEC 08 INPADOC: Legal Status data reloaded
NEWS	5	SEP 29 DISSABS now available on STN
NEWS	6	OCT 10 PCTFULL: Two new display fields added
NEWS	7	OCT 21 BIOSIS file reloaded and enhanced
NEWS	8	OCT 28 BIOSIS file segment of TOXCENTER reloaded and enhanced
NEWS	9	NOV 24 MSDS-CCOHS file reloaded
NEWS	10	DEC 08 CABA reloaded with left truncation
NEWS	11	DEC 08 IMS file names changed
NEWS	12	DEC 09 Experimental property data collected by CAS now available in REGISTRY
NEWS	13	DEC 09 STN Entry Date available for display in REGISTRY and CA/CAPLUS
NEWS	14	DEC 17 DGENE: Two new display fields added
NEWS	15	DEC 18 BIOTECHNO no longer updated
NEWS	16	DEC 19 CROPU no longer updated; subscriber discount no longer available
NEWS	17	DEC 22 Additional INPI reactions and pre-1907 documents added to CAS databases
NEWS	18	DEC 22 IFIPAT/IFIUDB/IFICDB reloaded with new data and search fields
NEWS	19	DEC 22 ABI-INFORM now available on STN
NEWS	20	JAN 27 Source of Registration (SR) information in REGISTRY updated and searchable
NEWS	21	JAN 27 A new search aid, the Company Name Thesaurus, available in CA/CAPLUS
NEWS	22	FEB 05 German (DE) application and patent publication number format changes
NEWS EXPRESS		DECEMBER 28 CURRENT WINDOWS VERSION IS V7.00, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003
NEWS HOURS		STN Operating Hours Plus Help Desk Availability
NEWS INTER		General Internet Information
NEWS LOGIN		Welcome Banner and News Items
NEWS PHONE		Direct Dial and Telecommunication Network Access to STN
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Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 06:10:31 ON 26 FEB 2004

=> ile caplus

THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE

Some commands only work in certain files. For example, the EXPAND command can only be used to look at the index in a file which has an index. Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of commands which can be used in this file.

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'CAPLUS' ENTERED AT 06:10:44 ON 26 FEB 2004

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FILE COVERS 1907 - 26 Feb 2004 VOL 140 ISS 9

FILE LAST UPDATED: 25 Feb 2004 (20040225/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> gas injection

1343505 GAS

464127 GASES

1510424 GAS

(GAS OR GASES)

428627 INJECTION

97499 INJECTIONS

488252 INJECTION

(INJECTION OR INJECTIONS)

L1 3818 GAS INJECTION

(GAS (W) INJECTION)

=> acryl?

L2 402843 ACRYL?

=> l1 and l2

L3 20 L1 AND L2

=> d l2 10-20 ti

L2 ANSWER 10 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN

TI Improvement of **acrylonitrile** reactor control system

L2 ANSWER 11 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Real-Time Infrared Determination of Photoinitiated Copolymerization Reactivity Ratios: Application of the Hilbert Transform and Critical Evaluation of Data Analysis Techniques

L2 ANSWER 12 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Self-crosslinking **acrylic** elastic emulsions and aggregates and putties therefrom

L2 ANSWER 13 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Polyolefin-based filler and its preparation

L2 ANSWER 14 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Screening of Catalysts for **Acrylonitrile** Decomposition

L2 ANSWER 15 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Synthesis and characterization of poly (aniline-co-**acrylonitrile**) using organic benzoyl peroxide by inverted emulsion method

L2 ANSWER 16 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Preparation of halo-tolerant, high absorbent resin

L2 ANSWER 17 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI In Situ Time-Dependent Signatures of Light Scattered from Solutions undergoing Polymerization Reactions

L2 ANSWER 18 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Polyelectrolyte Complexes of Chitosan and Poly(**acrylic** acid) As Proton Exchange Membranes for Fuel Cells

L2 ANSWER 19 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Determination of mole ratio of monomers in new adsorbent of solid-phase microextraction by infrared spectroscopy

L2 ANSWER 20 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Synthesis of the 3-cyanethyl-1,3-oxazacycloalkanes. New of data about the existence of ring-chain tautomerism in the row of β -ory-hydroxylcontaining imines

=> polym?

L4 1868920 POLYM?

=> d 12 1-9 ti

L2 ANSWER 1 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Measurement of the dissolved oxygen concentration in **acrylate** monomers with a novel photochemical method

L2 ANSWER 2 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Fluorescent probes for monitoring the pulsed-laser-induced photocuring of poly(urethane **acrylate**)-based adhesives

L2 ANSWER 3 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Silicone-based impact modifiers for poly(vinyl chloride), engineering resins, and blends

L2 ANSWER 4 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Emulsion polymerization: From fundamental mechanisms to process developments

L2 ANSWER 5 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Phase separation of off-critical polymer blends of poly(styrene-co-maleic

anhydride) and poly(methyl methacrylate). II. Morphology and mechanical properties

L2 ANSWER 6 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
TI Flammability of butadiene-**acrylonitrile** rubbers

L2 ANSWER 7 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
TI Conformational alteration of bradykinin in presence of GM1 micelle

L2 ANSWER 8 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
TI Non-sequencing molecular approaches to identify preS2-defective hepatitis B virus variants proved to be associated with severe liver diseases

L2 ANSWER 9 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthesis and application of 3-picoline

=> d l2 4 ti fbib abs

L2 ANSWER 4 OF 402843 CAPLUS COPYRIGHT 2004 ACS on STN
TI Emulsion polymerization: From fundamental mechanisms to process developments
AN 2004:152353 CAPLUS
TI Emulsion polymerization: From fundamental mechanisms to process developments
AU Asua, Jose M.
CS Institute for Polymer Materials (POLYMAT) and Grupo de Ingenieria Quimica, Facultad de Ciencias Quimicas, The University of the Basque Country, Donostia-San Sebastian, 20018, Spain
SO Journal of Polymer Science, Part A: Polymer Chemistry (2004), 42(5), 1025-1041
CODEN: JPACEC; ISSN: 0887-624X
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB Emulsion polymers are "products by process" whose main properties are determined during polymerization In this scenario of margins reduction, increasing competition, and public sensitivity to environmental issues, the challenge is to achieve an efficient production of high-quality materials in a consistent, safe, and environmentally friendly way. This highlight reviews the investigations carried out at The University of the Basque Country to develop a knowledge-based strategy to achieve these goals. First, the research in fundamental mechanisms is discussed. This includes studies in radical entry and exit, oil-soluble initiators, propagation rate consts. of **acrylic** monomers, processes involved in the formation of branched and crosslinked polymers, microstructure modification by postreaction operations, the formation of particle morphol., and reactive surfactants. The advanced math. models developed in the group are also reviewed. In the second part, the advances in process development (optimization, online monitoring and control, monomer removal, production of high-solids, low-viscosity latices, and process intensification) are presented.

=> d his

(FILE 'HOME' ENTERED AT 06:10:31 ON 26 FEB 2004)

FILE 'CAPLUS' ENTERED AT 06:10:44 ON 26 FEB 2004

L1 3818 GAS INJECTION
L2 402843 ACRYL?
L3 20 L1 AND L2

L4 1868920 POLYM?

=> 11 and 14

L5 159 L1 AND L4

=> packing

69768 PACKING

6972 PACKINGS

L6 72711 PACKING

(PACKING OR PACKINGS)

=> 11 and 16

L7 18 L1 AND L6

=> d 17 1-18 ti

L7 ANSWER 1 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Liquid holdup in non-wetting **packing** with lateral **Gas injection**

L7 ANSWER 2 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI External gas moulding

L7 ANSWER 3 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Process and apparatus for injection moulding hollow plastic articles

L7 ANSWER 4 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI A 3-D finite element model for gas-assisted injection molding: simulations and experiments

L7 ANSWER 5 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Foam flow in heterogeneous porous media: effect of crossflow

L7 ANSWER 6 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Computer simulation and experimental verification of gas-assisted injection molding

L7 ANSWER 7 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI On the dynamics of gas-assisted injection molding process

L7 ANSWER 8 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI An additive for increasing the density of a fluid and fluid comprising such additive

L7 ANSWER 9 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI On the dynamics of gas-assisted injection molding process

L7 ANSWER 10 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Filling and **packing** CAE software for **gas injection** molding

L7 ANSWER 11 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Natural gas storage Rehden (Germany). Planning, construction, and start-up

L7 ANSWER 12 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Performance of air current distribution in shallow bed **packing** columns with side inlets

L7 ANSWER 13 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Permeable ceramics utilizing spherical particles

L7 ANSWER 14 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN

TI Permeable refractories using spherical particles

L7 ANSWER 15 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
 TI High-intensity gas/liquid mass transfer in the bubbly flow region during
 co-current upflow through static mixers

L7 ANSWER 16 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Separation of oil-water mixtures in particulate beds

L7 ANSWER 17 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Distillation tower for petroleum and its derivatives

L7 ANSWER 18 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Gas-liquid chromatography of lipids

=> d 17 15 ti fbib abs

L7 ANSWER 15 OF 18 CAPLUS COPYRIGHT 2004 ACS on STN
 TI High-intensity gas/liquid mass transfer in the bubbly flow region during
 co-current upflow through static mixers

AN 1985:97506 CAPLUS
 DN 102:97506
 TI High-intensity gas/liquid mass transfer in the bubbly flow region during
 co-current upflow through static mixers

AU Roes, A. W. M.; Zeeman, A. J.; Bukkems, F. H. J.
 CS Koninklijke/Shell-Lab., Amsterdam, 1003 AA, Neth.
 SO Institution of Chemical Engineers Symposium Series (1984), 87(Chem. React.
 Eng.), 231-8
 CODEN: ICESDB; ISSN: 0307-0492

DT Journal
 LA English

AB The bubble-slug flow transition, pressure drop, gas hold-up, bubble diameter,
 mass-transfer coeffs., and power input were examined with air-water system
 in static mixers. A liquid circulation loop was used with **gas**
injection and 3 **packings**: a com. static mixer, Raschig
 rings, and wire gauze. The liquid mass-transfer coefficient was correlated to
 the pump-power input. A correlation of the bubble-slug flow transition is
 given.

=> distill?

108582 DISTILL?
 156850 DISTD
 1 DISTDS
 156850 DISTD
 (DISTD OR DISTDS)
 23949 DISTG
 167594 DISTN
 1717 DISTNS
 168313 DISTN
 (DISTN OR DISTNS)
 L8 353964 DISTILL?
 (DISTILL? OR DISTD OR DISTG OR DISTN)

=> d his

(FILE 'HOME' ENTERED AT 06:10:31 ON 26 FEB 2004)

FILE 'CAPLUS' ENTERED AT 06:10:44 ON 26 FEB 2004

L1 3818 GAS INJECTION
 L2 402843 ACRYL?
 L3 20 L1 AND L2
 L4 1868920 POLYM?

L5 159 L1 AND L4
L6 72711 PACKING
L7 18 L1 AND L6
L8 353964 DISTILL?

=> l1 and l8

L9 38 L1 AND L8

=> l4 and l9

L10 1 L4 AND L9

=> d l10 ti fbib bas

'BAS' IS NOT A VALID FORMAT FOR FILE 'CAPLUS'

The following are valid formats:

ABS ----- GI and AB
ALL ----- BIB, AB, IND, RE
APPS ----- AI, PRAI
BIB ----- AN, plus Bibliographic Data and PI table (default)
CAN ----- List of CA abstract numbers without answer numbers
CBIB ----- AN, plus Compressed Bibliographic Data
DALL ----- ALL, delimited (end of each field identified)
DMAX ----- MAX, delimited for post-processing
FAM ----- AN, PI and PRAI in table, plus Patent Family data
FBIB ----- AN, BIB, plus Patent FAM
IND ----- Indexing data
IPC ----- International Patent Classifications
MAX ----- ALL, plus Patent FAM, RE
PATS ----- PI, SO
SAM ----- CC, SX, TI, ST, IT
SCAN ----- CC, SX, TI, ST, IT (random display, no answer numbers;
 SCAN must be entered on the same line as the DISPLAY,
 e.g., D SCAN or DISPLAY SCAN)
STD ----- BIB, IPC, and NCL

IABS ----- ABS, indented with text labels
IALL ----- ALL, indented with text labels
IBIB ----- BIB, indented with text labels
IMAX ----- MAX, indented with text labels
ISTD ----- STD, indented with text labels

OBIB ----- AN, plus Bibliographic Data (original)
OIBIB ----- OBIB, indented with text labels

SBIB ----- BIB, no citations
SIBIB ----- IBIB, no citations

HIT ----- Fields containing hit terms
HITIND ----- IC, ICA, ICI, NCL, CC and index field (ST and IT)
 containing hit terms
HITRN ----- HIT RN and its text modification
HITSTR ----- HIT RN, its text modification, its CA index name, and
 its structure diagram
HITSEQ ----- HIT RN, its text modification, its CA index name, its
 structure diagram, plus NTE and SEQ fields
FHITSTR ----- First HIT RN, its text modification, its CA index name, and
 its structure diagram
FHITSEQ ----- First HIT RN, its text modification, its CA index name, its
 structure diagram, plus NTE and SEQ fields
KWIC ----- Hit term plus 20 words on either side
OCC ----- Number of occurrence of hit term and field in which it occurs

To display a particular field or fields, enter the display field codes. For a list of the display field codes, enter HELP DFIELDS at an arrow prompt (=>). Examples of formats include: TI; TI,AU; BIB,ST; TI,IND; TI,SO. You may specify the format fields in any order and the information will be displayed in the same order as the format specification.

All of the formats (except for SAM, SCAN, HIT, HITIND, HITRN, HITSTR, FHITSTR, HITSEQ, FHITSEQ, KWIC, and OCC) may be used with DISPLAY ACC to view a specified Accession Number.
ENTER DISPLAY FORMAT (BIB):end

=> d l10 ti fbib abs

L10 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthetic lubricants by oligomerization and hydrogenation
AN 1974:98214 CAPLUS
DN 80:98214
TI Synthetic lubricants by oligomerization and hydrogenation
IN Shubkin, Ronald L.
PA Ethyl Corp.
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1.

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3780128	A	19731218	US 1971-195443	19711103
				US 1971-195443	19711103
AB	<p>Synthetic lubricating fluids, of low pour point and high viscosity index, are prepared by polymerizing C6-16 α-olefins, using alc.-promoted BF₃ in molar excess of the alc. The fluids are improved by hydrogenation. Thus, 1-decene and a preformed BF₃-n-propanol complex were mixed 10 min. at room temperature with no reaction. Injection of BF₃ gas initiated a reaction and temperature was held at 27° for 10 min. when anal. gave monomer 10, dimer 10 and trimer 80%. Further gas injection for 20 min. caused a reaction with temperature reaching 35° and in 1 hr almost complete polymerization had occurred. This polymer was hydrogenated on Ni-containing kieselguhr catalyst at 220° and 900-1000 psi for 10 hr. After filtering, the oil was stripped of monomer and distilled in vacuo to remove the dimer. This gave an oil of 22.72 at 100 and 4.6 cSt at 210°F with a viscosity index 131 and a pour point -80°F.</p>				

=> logoff hold

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
36.62	36.83

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-2.08	-2.08

CA SUBSCRIBER PRICE

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PASSWORD:

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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	36.62	36.83
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-2.08	-2.08

=> d his

(FILE 'HOME' ENTERED AT 06:10:31 ON 26 FEB 2004)

FILE 'CAPLUS' ENTERED AT 06:10:44 ON 26 FEB 2004

L1 3818 GAS INJECTION
L2 402843 ACRYL?
L3 20 L1 AND L2
L4 1868920 POLYM?
L5 159 L1 AND L4
L6 72711 PACKING
L7 18 L1 AND L6
L8 353964 DISTILL?
L9 38 L1 AND L8
L10 1 L4 AND L9

=> corrug?

L11 15009 CORRUG?

=> l1 and l11

L12 2 L1 AND L11

=> d l12 1-2 ti

L12 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN

TI Land disposal of waste gases. III. Sorption patterns from buried
gas injection pipes

L12 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN

TI Land disposal of waste gases. II. Gas flow from buried pipes

=> l6 and l11

L13 542 L6 AND L11

=> l4 and l13

L14 44 L4 AND L13

=> d l14 24-44 ti

L14 ANSWER 24 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN

TI Manufacture of porous carbon plate

L14 ANSWER 25 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN

TI **Packings** for wastewater treatment

L14 ANSWER 26 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI An ordered bed **packing** module

L14 ANSWER 27 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Molecular compounds and complexes. Part XII. Crystal chemistry of N-(p-tolyl)tetrachlorophthalimide and of its channel inclusion complexes

L14 ANSWER 28 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Crazing in two polystyrene/polybutadiene block copolymers

L14 ANSWER 29 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Shock-absorbing **packing** materials

L14 ANSWER 30 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Corrugated** paperboard of the monowave or multiwave type for **packing**

L14 ANSWER 31 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Transmission electron diffraction intensities from real organic crystals: thin plate microcrystals of paraffinic compounds

L14 ANSWER 32 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Packing** for effecting contact of a gas with a flowing liquid film

L14 ANSWER 33 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Complex products based on foam and a porous reinforcement agent

L14 ANSWER 34 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Testing of combinations made of paper and polystyrene foam film

L14 ANSWER 35 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Size for **corrugated** cardboard

L14 ANSWER 36 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Sintered plates of poly(vinyl chloride) resin for use as **packing** in cooling towers

L14 ANSWER 37 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Apparatus for continuous polycondensation reaction

L14 ANSWER 38 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Heat-sealable **packing** material

L14 ANSWER 39 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Packing** for gas-liquid contact systems

L14 ANSWER 40 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Some new habit features in crystals of long chain compounds. IV. The fold surface geometry of monolayer polyethylene crystals and its relevance to fold **packing** and crystal growth

L14 ANSWER 41 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Some new habit features in crystals of long-chain compounds. II.
Polymers

L14 ANSWER 42 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Molded polystyrene for trickling filters

L14 ANSWER 43 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI Corrosion-inhibiting coating for separator and **packing** cartons

L14 ANSWER 44 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI American Society for Testing Materials, Standards, 1943. Supplement. III.
Nonmetallic materials, general

=> d 114 39 ti fbib abs

L14 ANSWER 39 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Packing** for gas-liquid contact systems
AN 1967:86414 CAPLUS
DN 66:86414
TI **Packing** for gas-liquid contact systems
IN Moeller, Delmer H.; Towsley, Frank E.; Moss, Charles F.
PA Dow Chemical Co.
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3281307		19661025	US	19621105
AB	Extended surface elements, especially useful as packing in biol. oxidation towers or cooling towers are layers of rectangular corrugated sheets of a molded rigid thermoplastic material, e.g., polystyrene, unplasticized poly(vinyl chloride), saran, acrylic, or a thermosetting phenolic, melamine, or furan resin. Each sheet is corrugated on two portions separated by a sinusoidal transition section. To prepare the packing , the corrugation peaks of the 2 portions are displaced by .apprx.180° and the sheets are joined by heat-sealing, mech. fastness, adhesives, or flange-welding (U.S. 3,007,834). The geometric configuration of the sheets contributes high compressive strength, minimizes the possibility of free-fall of liquid from top to bottom of a packed tower, simplifies manufacture and assembly, and allows nesting for space-saving during shipment.				

=> logoff hold

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	49.98	50.19
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-2.77	-2.77

SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 07:00:39 ON 26 FEB 2004

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:

* * * * * RECONNECTED TO STN INTERNATIONAL * * * * *
SESSION RESUMED IN FILE 'CAPLUS' AT 07:10:54 ON 26 FEB 2004
FILE 'CAPLUS' ENTERED AT 07:10:54 ON 26 FEB 2004
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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
FULL ESTIMATED COST	ENTRY	SESSION
	49.98	50.19
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
CA SUBSCRIBER PRICE	ENTRY	SESSION
	-2.77	-2.77

=> d his

(FILE 'HOME' ENTERED AT 06:10:31 ON 26 FEB 2004)

FILE 'CAPLUS' ENTERED AT 06:10:44 ON 26 FEB 2004

L1 3818 GAS INJECTION
 L2 402843 ACRYL?
 L3 20 L1 AND L2
 L4 1868920 POLYM?
 L5 159 L1 AND L4
 L6 72711 PACKING
 L7 18 L1 AND L6
 L8 353964 DISTILL?
 L9 38 L1 AND L8
 L10 1 L4 AND L9
 L11 15009 CORRUG?
 L12 2 L1 AND L11
 L13 542 L6 AND L11
 L14 44 L4 AND L13

=> d l14 1-23 ti

L14 ANSWER 1 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Insulating packaging material and related packaging system

L14 ANSWER 2 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Solid-state morphologies of linear and bottlebrush-shaped polystyrene-poly(Z-L-lysine) block copolymers

L14 ANSWER 3 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI **Packing** for mass-transfer and separation equipment

L14 ANSWER 4 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Lithography printing plate **packing** structure, lithography printing plate packaging method and packaging material for lithography printingplate. [Machine Translation].

L14 ANSWER 5 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Pattern formation and morphology control of the **corrugation** on the surface of photocurable **polymer**

L14 ANSWER 6 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Structure and Optical Properties of Several Organic-Inorganic Hybrids Containing Corner-Sharing Chains of Bismuth Iodide Octahedra

L14 ANSWER 7 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Suction of water sheet for foliage plant vegetable. [Machine Translation].

L14 ANSWER 8 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Structures of ionic di(arenesulfonyl)amides. Part 2. Silver(I) di(arenesulfonyl)amides and a silver(I) (arenesulfonyl)(alkanesulfonyl)amide. From ribbons to lamellar layers exhibiting short C-H...Hal-C or C-Br...Br-C interlayer contacts

L14 ANSWER 9 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Solid-state supramolecular chemistry of porphyrins. Ligand-bridged tetraphenylmetalloporphyrin dimers

L14 ANSWER 10 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Sensitive adhesive and its utilization

L14 ANSWER 11 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Method for sealing solid **polymer** electrolyte fuel cells

L14 ANSWER 12 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI A general boundary condition for liquid flow at solid surfaces

L14 ANSWER 13 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Synthesis of MTBE. Influence of crosslinking and **polymer** content on activity and selectivity of **polymer** carrier ion exchange catalysis

L14 ANSWER 14 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Separation of high concentration divinylbenzene

L14 ANSWER 15 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Method for sealing solid **polymer** electrolyte fuel cells

L14 ANSWER 16 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Influence of crosslinking and **polymer** content on activity and selectivity of **polymer**/carrier ion exchange catalysts for the synthesis of MTBE

L14 ANSWER 17 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Cushioning materials from soft foamed polyurethanes

L14 ANSWER 18 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI A novel nickel-containing chain-like **polymer**:
 $[\{Ni(NH_3)_4\}Ni\{S_2C=C(CN)_2\}_2]_\infty$

L14 ANSWER 19 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI High-temperature braided **packing** comprising a core of folded flexible graphite tape

L14 ANSWER 20 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Manufacture of **packing** materials for mixing, mass-transfer, or heat-exchange apparatus

L14 ANSWER 21 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Crystal structures and **polymorphism** in aliphatic p-amidobenzoic acids

L14 ANSWER 22 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Plastic film composites as thermal insulators for containers

L14 ANSWER 23 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI **Packing** material which releases sulfur dioxide in the presence of moisture

=> d l14 3,20 ti fbib abs

L14 ANSWER 3 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI **Packing** for mass-transfer and separation equipment
 AN 2002:36726 CAPLUS
 DN 136:71611

TI **Packing** for mass-transfer and separation equipment
 IN Vybornov, V. G.
 PA Russia
 SO Russ., No pp. given
 CODEN: RUXXE7
 DT Patent
 LA Russian
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	RU 2155095	C1	20000827	RU 1999-104446	19990309
				RU 1999-104446	19990309

AB The **packing** has retainers made in the form of parallel rods which are mounted in a grid and between grid layers so that they partially overlap the **packing** cross section. Ends of the rods are fastened by means of plates. The grid layers are positioned at an angle to the rods. The rods may be positioned at an angle to a horizontal plane to facilitate draining of liqs. The grid is made in the form of a multilayer packet and may have a zigzag-shaped or arch-shaped profile along the height or length. The grid may be manufactured from a woven or welded mesh and may have cells of different dimensions and shapes, or may be manufactured from wire or monofilament of a different thickness and profile. A sieve sleeve woven from a wire or **polymer** monofilament may be used as the grid. The sleeve may be flat or preliminarily **corrugated**. The **packing** has an increased efficiency in mass exchange and separation processes, wider operational capabilities, and simplified construction.

L14 ANSWER 20 OF 44 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Manufacture of **packing** materials for mixing, mass-transfer, or heat-exchange apparatus
 AN 1993:674345 CAPLUS
 DN 119:274345
 TI Manufacture of **packing** materials for mixing, mass-transfer, or heat-exchange apparatus
 IN Nagaoka, Tadayoshi
 PA Nagaoka Intl. Corp., Japan
 SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 23 pp.
 CODEN: CNXXEV
 DT Patent
 LA Chinese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1070845	A	19930414	CN 1992-111344	19920930
				JP 1991-280548 A	19911001
	JP 05096101	A2	19930420	JP 1991-280548	19911001
	JP 3252972	B2	20020204		
	JP 2002201550	A2	20020719	JP 2001-317940	19911001
				JP 1991-280548 A3	19911001

AB The **packing** materials are manufactured by knitting parallel **corrugated** permeable sheets to form multiple channels in main flow direction for flowing fluids and protrusions of the sheets in transverse direction of the main flow, and simultaneously joining the protrusions of adjacent sheets by knitting. The **packing** materials may be made of metal wires, synthetic, plant, and/or glass fibers.

=> logoff hold

COST IN U.S. DOLLARS

FULL ESTIMATED COST

SINCE FILE

ENTRY

67.12

TOTAL

SESSION

67.33

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-4.16

-4.16

SESSION WILL BE HELD FOR 60 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 07:17:34 ON 26 FEB 2004

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:

* * * * * RECONNECTED TO STN INTERNATIONAL * * * * *
SESSION RESUMED IN FILE 'CAPLUS' AT 07:54:15 ON 26 FEB 2004
FILE 'CAPLUS' ENTERED AT 07:54:15 ON 26 FEB 2004
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COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

67.12

67.33

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-4.16

-4.16

=> d his

(FILE 'HOME' ENTERED AT 06:10:31 ON 26 FEB 2004)

FILE 'CAPLUS' ENTERED AT 06:10:44 ON 26 FEB 2004

L1 3818 GAS INJECTION
L2 402843 ACRYL?
L3 20 L1 AND L2
L4 1868920 POLYM?
L5 159 L1 AND L4
L6 72711 PACKING
L7 18 L1 AND L6
L8 353964 DISTILL?
L9 38 L1 AND L8
L10 1 L4 AND L9
L11 15009 CORRUG?
L12 2 L1 AND L11
L13 542 L6 AND L11
L14 44 L4 AND L13

=> 14 and 16

L15 10957 L4 AND L6

=> 12 and 115

L16 992 L2 AND L15

=> 18 and 116

L17 22 L8 AND L16

=> d 117 11-22 ti

L17 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
TI trans-1,2-Dicyanocyclobutane

L17 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Production of methacrylate and **acrylate** esters without
polymerization

L17 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Aluminum-plastic laminates

L17 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Coatings for paper and cardboard

L17 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Separation of methyl acetate and methanol from mixtures of. acetic acid
 and methyl chloride

L17 ANSWER 16 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI **Polymers** of chlorine-substituted fluorobutadienes

L17 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Ion-retardation for the separation of glycerol and sodium chloride in
 aqueous solution

L17 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Reaction of **acrylates** and methylacrylates with organomagnesium
 compounds

L17 ANSWER 19 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Nitration studies. XII. Nitrohalogenation of negatively substituted
 olefins with mixtures of dinitrogen tetroxide and halogens

L17 ANSWER 20 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Allyl esters of some acids of trivalent arsenic and antimony, and an
 attempt at their copolymerization

L17 ANSWER 21 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI **Polymerization** inhibition during **acrylate** purification

L17 ANSWER 22 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Purifying materials such as methacrylic acid

=> d 117 12,21,22 ti

L17 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Production of methacrylate and **acrylate** esters without
polymerization

L17 ANSWER 21 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI **Polymerization** inhibition during **acrylate** purification

L17 ANSWER 22 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Purifying materials such as methacrylic acid

=> d 117 12,21,22 ti fbib abs

L17 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Production of methacrylate and **acrylate** esters without
polymerization

AN 1967:473164 CAPLUS
 DN 67:73164
 TI Production of methacrylate and **acrylate** esters without
polymerization

IN Hagemeyer, Hugh J., Jr.; Blood, Alden E.; Statman, Max
PA Eastman Kodak Co.
SO U.S., 4 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3332974		19670725	US	19610718
AB	<p>The title process is carried out in distillation columns and reactors packed with a ceramic material which has been treated with an HNO₃-H₂SO₄ mixture, by treating methacrylamide (I) or acrylamide with an alc. in the presence of a strong aqueous acid solution Thus, aqueous I, prepared from 2810 ml. acetone cyanohydrin and 3660 ml. of 100% H₂SO₄ was fed into the top of a column packed with unglazed porcelain Berl saddles. A total of 10,225 ml. iso-BuOH was fed into a heater at the base of the column over 15.8 hrs., and phenol and air were also fed into the reactor to inhibit polymerization A yield of 56.8 g. product per in.3 Berl saddles was obtained before the reactor column became plugged with polymer. The same process was carried out, using a column packed with Berl saddles which had been treated with a mixture of equal vols. of fuming sulfuric acid (20% SO₃) and concentrated HNO₃ for 12 hrs. A yield of 980 g. product per in.3 Berl saddles was obtained from this column before the operation was terminated, and no sign of polymer was found on the packing. HCl and H₃PO₄ are also claimed as esterification catalysts, and benzyl alc., phenylethyl alc., cyclohexanol, cyclopentanol, and cyclobutanol as starting materials.</p>				

L17 ANSWER 21 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Polymerization** inhibition during **acrylate** purification
AN 1957:5628 CAPLUS
DN 51:5628
OREF 51:1248b-d
TI **Polymerization** inhibition during **acrylate** purification
IN Vaughan, Mervyn F.; Bellringer, Frederick J.
PA Distillers Co. Ltd.
DT Patent
LA Unavailable
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2741583		19560410	US	
AB	<p>Instead of purifying acrylates by use of expensive means for generation of NO₂, it has been discovered that a metallic nitrite or a mixture of N oxides can be used to reduce polymerization in the still. The distillate produced, however, undergoes rapid polymerization, but this can be inhibited by governing the conditions closely. A solution (I) (50% by weight Me acrylate) with MeOH and EtCO₂Me was vaporized and fed into a 66 + 2-in. fractionating column packed with stainless-steel gauze packing rings, and an aqueous solution of NaNO₂ (II) (3 g./l.) at pH 6.0 and 71° fed into the system (1 atmospheric) through the top of the column. The aqueous layer of the distillate was separated from the oily layer and returned to the column. The distillate was fed directly into a washing column and washed with a solution containing Na₂SO₃ and NaCl. The still ran 600 hrs. without any evidence of polymer being formed. Replacement of the aqueous NaNO₂ by a solution of any one of the alkaline earth-metal nitrites, or any of the other alkali-metal nitrites, or a mixture of N oxides produced</p>				

by the reaction of NaNO₂ with dilute H₂SO₄, also inhibited **polymer** formation. I fed into a 40-plate stainless-steel, bubble-cap column at 2 gal./hr. and II fed into the top of the column at 12 gal./hr. and 44° and (pressure at the head of the column was 250 mm. and 332 mm. at the kettle) gave no serious **polymerization** after 420 hrs.

L17 ANSWER 22 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Purifying materials such as methacrylic acid
 AN 1941:32661 CAPLUS
 DN 35:32661
 OREF 35:5133i,5134a-b
 TI Purifying materials such as methacrylic acid
 IN Barnes, Carl E.
 PA Norton Co.
 DT Patent
 LA Unavailable
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2241175		19410506	US	
AB	A method of purifying a monomeric polymerizable substance comprising an acid having the formula CH ₂ :CRCOOH in which R is from the group of H, halogen and the methyl group involves the steps of distilling the substance and passing the vapor into a fractionating column and there causing the vapor and condensate to contact intimately with a packing presenting an extensive surface area of an inhibitor metal selected from the group consisting of Cu or Cr which is located wherever polymerization tends to occur materially, and causing the desired vapor to pass substantially free from the inhibitor and impurities to a cooling zone and there condensing the vapor and quickly cooling the condensate to a temperature at which polymerization will not take place.				

=> d 117 1-10 ti

L17 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Apparatus for handling of **polymerizing** substances

L17 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Procedure for manufacture of (meth)**acrylic** acid esters

L17 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Method for preparation of **packing** materials for liquid chromatography columns

L17 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Method for cleaning of materials in packed towers

L17 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Method for purification of isocyanatoalkyl (meth)**acrylate** substantially free from chlorine by **distillation** and dechlorination using epoxy compound and amine

L17 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Resin composition and **distillation** methods for inhibiting **polymerization** of vinyl compound

L17 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Preparation of hydrophilic column **packings** using organic **polymers**

L17 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

TI Suppressing **polymerization** of **acrylate** and
methacrylate monomers during rectification

L17 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

TI **Acrylic** acid purification and **polymerization**

L17 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

TI **Acrylic** acid purification

=> d 117 1-10 ti fbib abs

L17 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

TI Apparatus for handling of **polymerizing** substances

AN 2003:782784 CAPLUS

DN 139:293789

TI Apparatus for handling of **polymerizing** substances

IN Kono, Michiyuki; Kaho, Yasuhiro; Taniguchi, Yoshiyuki; Marumoto, Takehiro

PA Mitsubishi Rayon Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003284942	A2	20031007	JP 2002-92510	20020328
				JP 2002-92510	20020328

AB The title apparatus is composed of **packing** materials coated with,
e.g., fluoropolymers. It is used for prevention of growth of
polymerizing substances, e.g., (meth)**acrylic** acid in
distillation

L17 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

TI Procedure for manufacture of (meth)**acrylic** acid esters

AN 2002:462390 CAPLUS

DN 137:33676

TI Procedure for manufacture of (meth)**acrylic** acid esters

IN Martin, Friedrich-Georg; Nestler, Gerhard; Schroeder, Juergen

PA BASF AG, Germany

SO Ger. Offen., 4 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10063176	A1	20020620	DE 2000-10063176	20001218
	WO 2002050015	A1	20020627	WO 2001-EP14903	20011217
	W: US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				
	PT, SE, TR				
				DE 2000-10063176A	20001218
EP 1345887	A1	20030924		EP 2001-984858	20011217
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				
	IE, FI, CY, TR				
				DE 2000-10063176A	20001218
				WO 2001-EP14903W	20011217
US 2004030179	A1	20040212		US 2003-433614	20030617
				DE 2000-10063176A	20001218
				WO 2001-EP14903W	20011217

AB (meth)**acrylic** acid esters (of mol. weight >200) are obtained by
esterification of (meth)**acrylic** acid with alcs. in the presence

of ≥ 1 acid catalyst, ≥ 1 **polymerization** inhibitor, and an organic solvent, which forms an azeotrope with water, whereby the mixture is heated to the b.p. in an apparatus with a **distillation** unit, column and condenser, the azeotrope is **distilled** off and the organic solvent is recirculated to the column at least partially contacting a copper-containing material, such as **distillation** column **packings** or separation efficient fittings. Thus, **acrylic** acid 2380, tripropylene glycol 2880, cyclohexane 2300, p-toluenesulfonic acid 120, 50% phosphinic acid 9.4, and hydroquinone monomethylether 4.7 parts were mixed in a 10-L-reactor with a double layer heating and **distillation** column (5 + 60 cm). The reaction water formed was **distilled** off as azeotrope with cyclohexane, whereby after after condensation the organic phase formed was separated and recirculated to the column, which was filled with copper Raschig-rings at the top and glass rings under it. Within 8 h, 546 parts of water was separated, so that a 97% yield of esterification took place and no **polymerization** was observed in the column.

L17 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Method for preparation of **packing** materials for liquid chromatography columns
 AN 2000:669496 CAPLUS
 DN 133:208334
 TI Method for preparation of **packing** materials for liquid chromatography columns
 IN Song, Soo-suk; Kim, Ho-hyun; Yeu, Kyu-dong
 PA Samyang Co., S. Korea
 SO Repub. Korea, No pp. given
 CODEN: KRXXFC
 DT Patent
 LA Korean
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	KR 9709234	B1	19970609	KR 1993-27285	19931210
				KR 1993-27285	19931210

AB The column **packing** material for liquid chromatog., which has a improved mech. strength and resolution performance, is prepared by suspension **polymerization** via addition of emulsifiers, a salting out agent, and initiator to a 30-60% pentaerythritol mono-, di-, tri(meta) **acrylate** mixture, and 1-20% cyclohexane di-Me di(meta) **acrylate** derivs., and 39-50% glycidyl (meta)**acrylate** in **distilled** water and organic solvent.

L17 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Method for cleaning of materials in packed towers
 AN 1999:714922 CAPLUS
 DN 131:324471
 TI Method for cleaning of materials in packed towers
 IN Suzuki, Masao; Nomura, Kiyohito; Ikemori, Shinji
 PA Yuken Kogyo Co., Ltd., Japan; Idemitsu Kosan Co., Ltd.
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11309363	A2	19991109	JP 1998-363399	19981221
				JP 1997-353819	19971222

AB Method for cleaning of inorg. materials packed in a tower is claimed. Gels formed as byproducts in preparation of **polymerizable** compds. by gas-liquid contact reaction in the tower are adhered on the inorg. **packings**. Used **packings** are (1) immersed in monoterpene

solvents for the gels to swell, (2) then barrel treated with a monoterpene-containing emulsion for removal of the separated gel, and (3) the **packings** are rinsed and heat-dried. The **packings** can be cleaned to a recycling level.

L17 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Method for purification of isocyanatoalkyl (meth)**acrylate** substantially free from chlorine by **distillation** and dechlorination using epoxy compound and amine
 AN 1999:530982 CAPLUS
 DN 131:158089
 TI Method for purification of isocyanatoalkyl (meth)**acrylate** substantially free from chlorine by **distillation** and dechlorination using epoxy compound and amine
 IN Misu, Naoaki; Matsuhira, Shinya; Kihara, Muneyo; Ohnishi, Yutaka
 PA Showa Denko K. K., Japan
 SO Jpn. Kokai Tokyo Koho, 7 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11228523	A2	19990824	JP 1998-25493	19980206
	CA 2261324	AA	19990806	CA 1999-2261324	19990205
				JP 1998-25493 A	19980206
	EP 936214	A2	19990818	EP 1999-102318	19990205
	EP 936214	A3	19990825		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
				JP 1998-25493 A	19980206
	US 6245935	B1	20010612	US 1999-245707	19990208
				JP 1998-25493 A	19980206
				US 1998-101527PP	19980923

AB Isocyanatoalkyl (meta)**acrylates** substantially free from hydrolytic chlorine are prepared by purification which involves treatment of
 (A) isocyanatoalkyl **acrylate** containing isocyanatoalkyl 2-chloropropionate or (B) isocyanatoalkyl methacrylate containing isocyanatoalkyl 2-methyl-2-chloropropionate with an epoxy-containing compound and amine/or imidazole until isocyanatoalkyl 2-chloropropionate or 2-methyl-2-chloropropionate is no longer present. The purified isocyanatoalkyl (meta)**acrylate** is useful as a raw material for photoresists (active ray-curable resins) suitable for electronic or elec. parts which is not compatible with chlorine. Thus, 2-isocyanatoethyl methacrylate (I) containing 381 ppm hydrolytic chlorine 300, epoxidized fatty plasticizer (mol. weight .apprx.100 and iodine value 7) containing 6.1% oxirane oxygen 1.7, 2,6-di-tert-butyl-4-methylphenol 0.3, and triethylenetetramine 0.11 g were stirred in a glass reaction vessel at 60° and .apprx.1.3 kPa and **distilled** at 85° to give 220 g I containing 29 ppm hydrolytic chlorine. Phenothiazine (0.15 g) was added the purified I (150 g) and the resulting mixture was **distilled** at 70° (column bottom temperature 81°) and .apprx.0.7 kPa with a series of two glass columns packed with Dixon **packings** to give 53 g I in which no hydrolytic chlorine was detected.

L17 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Resin composition and **distillation** methods for inhibiting **polymerization** of vinyl compound
 AN 1999:260038 CAPLUS
 DN 130:312219
 TI Resin composition and **distillation** methods for inhibiting **polymerization** of vinyl compound

IN Tanaka, Kazumi
PA Mitsubishi Gas Chemical Company, Inc., Japan
SO Eur. Pat. Appl., 15 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 909767	A1	19990421	EP 1998-119189	19981012
	EP 909767	B1	20040204		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
				JP 1997-283637 A	19971016
				JP 1998-70449 A	19980319
	JP 11116819	A2	19990427	JP 1997-283637	19971016
	JP 11269128	A2	19991005	JP 1998-70449	19980319
	US 6239199	B1	20010529	US 1998-172197	19981014
				JP 1997-283637 A	19971016
				JP 1998-70449 A	19980319

AB There are disclosed (1) a resin composition for inhibiting **polymerization** of a vinyl compound, which composition comprises a resin and 0.1 to 30% by weight based

on the resin, of a **polymerization** inhibitor for the vinyl compound; (2) a resin molding for inhibiting **polymerization** of a vinyl compound comprising the above resin composition; (3) **packing** for inhibiting **polymerization** of a vinyl compound in **distillation** tower, which **packing** comprises the above resin composition or resin molding; (4) a method for inhibiting **polymerization** of a vinyl compound comprising contacting the vinyl compound with the resin composition; and (5) a method for inhibiting **polymerization** of a vinyl compound comprising contacting the vinyl compound in a **distillation** tower with the **packing** therein comprising the above resin composition By using the resin composition

for

inhibiting **polymerization** of the vinyl compound of the present invention as a construction material of an inner wall of a reactor, **distillation** equipment and piping and the **packing** in the **distillation** tower, the vinyl compound can be produced stably by adding a small amount of the **polymerization** inhibitor for the vinyl compound without adding a large amount thereof, differently from the prior methods. Thus, a composition

as

polymerization inhibitor of 2-hydroxyethyl methacrylate in a **distillation** tower was made from FY 6C containing 5% phenothiazine (Antage TDP).

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

TI Preparation of hydrophilic column **packings** using organic **polymers**

AN 1990:461839 CAPLUS

DN 113:61839

TI Preparation of hydrophilic column **packings** using organic **polymers**

IN Sulc, Jiri; Linek, Vaclav; Kralicek, Jaroslav; Krivsky, Zdenek; Sinkule, Jiri; Raschig, Gert

PA Czech.

SO Czech., 4 pp.

CODEN: CZXXA9

DT Patent

LA Czech

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI CS 263649 B1 19890414 CS 1986-8417 19861120
CS 1986-8417 19861120

AB The **packing** materials comprise molded **polymer** melts in which 1-15 weight% hydrophilic **polymer** having a contact wetting angle $<40^\circ$ is added to a hydrophobic **polymer** (e.g., polypropylene) having a contact wetting angle $>60^\circ$. The hydrophilic **polymer** has the same or lower m.p. and lower viscosity than the hydrophobic **polymer**. Ethylene-vinyl acetate copolymer containing $\geq 40\%$ vinyl acetate, and/or low-mol. weight sulfonated polystyrene, sulfonated copolymers of styrene with ethylene or other vinyl monomers, ethylenesulfonic acid copolymers, partially hydrolyzed **polymers** and copolymers of **acrylonitrile** (e.g., **acrylonitrile-acrylamide** copolymer), and copolymers of alkylacrylates, preferably Me **acrylates**, with **acrylic** or methacrylic acid are used as the hydrophilic **polymers**. The hydrophilic **packings** can be used in columns for sorption, **distillation**, chemisorption, cooling, etc., which operate with aqueous phases.

L17 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

TI Suppressing **polymerization** of **acrylate** and methacrylate monomers during rectification.

AN 1975:459753 CAPLUS

DN 83:59753

TI Suppressing **polymerization** of **acrylate** and methacrylate monomers during rectification

IN Kouril, Vladimir

SO Czech., 2 pp.

CODEN: CZXXA9

DT Patent

LA Czech

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CS 153894	B	19740329	CS 1972-1225	19720225
				CS 1972-1225	19720225

AB Ceramic column **packings** were treated with a 3:1 mixture of H_2SO_4 and HNO_3 , washed, dried, pressure-impregnated with a 15% $CuCl_2$ solution and dried at 120° . The equipment remained clean after a 2-hr exptl. **distillation** of a 7:3 mixture of Bu and Me **acrylate**, while untreated columns became clogged with **polymers** despite the presence of a **polymerization** inhibitor.

L17 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

TI **Acrylic** acid purification and **polymerization**

AN 1970:467209 CAPLUS

DN 73:67209

TI **Acrylic** acid purification and **polymerization**

IN Bashaw, Robert N.

PA Dow Chemical Co.

SO Brit., 3 pp.

CODEN: BRXXAA

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1197558		19700708	GB	19690328
	FR 2040874			FR	

AB **Acrylic** acid (I) suitable for the preparation of high mol. weight, flocculant grade **polymers** was prepared by **distilling** inhibited I through a Cu **packing**, recovering the

distillate in water at <20°, and treating the aqueous solns. of I **distillate** with a cation exchange resin, e.g. sulfonated styrene-divinylbenzene copolymers, to reduce the Cu content of the **distillate** solution to <1 ppm.

L17 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2004 ACS on STN

TI **Acrylic** acid purification

AN 1970:78435 CAPLUS

DN 72:78435

TI **Acrylic** acid purification

IN Bashaw, Robert N.

PA Dow Chemical Co.

SO U.S., 2 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3493471	A	19700203	US 1967-687153	19671201
	BE 731457	A	19691014	BE 1969-731457	19690414
				US 1967-687153	19671201

AB Quinone- or thiazine-inhibited **acrylic** acid (I) was purified to **polymerization** by **distillation** through a Cu **packing**. The overhead vapors were quenched with deionized water at .apprx.10°. The resulting I solution was contacted with an ion exchange resin or achelating resin to remove the Cu cations. The resulting I could then be **polymerized** in the presence of FeSO4 and α,α' -azobisisobutyronitrile, yielding a high-mol.-weight, flocculant-grade poly(**acrylic** acid).

=> d his

(FILE 'HOME' ENTERED AT 06:10:31 ON 26 FEB 2004)

FILE 'CAPLUS' ENTERED AT 06:10:44 ON 26 FEB 2004

L1 3818 GAS INJECTION
 L2 402843 ACRYL?
 L3 20 L1 AND L2
 L4 1868920 POLYM?
 L5 159 L1 AND L4
 L6 72711 PACKING
 L7 18 L1 AND L6
 L8 353964 DISTILL?
 L9 38 L1 AND L8
 L10 1 L4 AND L9
 L11 15009 CORRUG?
 L12 2 L1 AND L11
 L13 542 L6 AND L11
 L14 44 L4 AND L13
 L15 10957 L4 AND L6
 L16 992 L2 AND L15
 L17 22 L8 AND L16

=> styrene

251507 STYRENE
 4248 STYRENES
 L18 252537 STYRENE
 (STYRENE OR STYRENES)

=> l18 and l15

L19 810 L18 AND L15

=> 18 and 119

L20 24 L8 AND L19

=> d 120 11-24 ti

L20 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Packed towers reduce cost

L20 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Acrylic acid purification and **polymerization**

L20 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Multiple detectors for molecular weight and composition analysis of copolymers by gel permeation chromatography

L20 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Aluminum-plastic laminates

L20 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Separation of methyl acetate and methanol from mixtures of. acetic acid and methyl chloride

L20 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Coal-tar **styrene**

L20 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Polymers** of chlorine-substituted fluorobutadienes

L20 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Reactions catalyzed by acids or bases

L20 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Ion-retardation for the separation of glycerol and sodium chloride in aqueous solution

L20 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI 2-Phenylbutadiene from α -methylstyrene

L20 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI X-ray characterization of new isotactic **polymers**

L20 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Allyl esters of some acids of trivalent arsenic and antimony, and an attempt at their copolymerization

L20 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Derivatives of dicyclopentadienyliron

L20 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Distillation of polymerizable** vinyl aromatic compounds such as **styrene** and ethylbenzene

=> d 120 12, 24 ti fbib abs

L20 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Acrylic acid purification and **polymerization**
AN 1970:467209 CAPLUS
DN 73:67209
TI Acrylic acid purification and **polymerization**
IN Bashaw, Robert N.
PA Dow Chemical Co.

SO Brit., 3 pp.
CODEN: BRXXAA
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1197558		19700708	GB	19690328
	FR 2040874			FR	

AB Acrylic acid (I) suitable for the preparation of high mol. weight, flocculant grade **polymers** was prepared by **distilling** inhibited I through a Cu **packing**, recovering the **distillate** in water at <20°, and treating the aqueous solns. of I **distillate** with a cation exchange resin, e.g. sulfonated **styrene**-divinylbenzene copolymers, to reduce the Cu content of the **distillate** solution to <1 ppm.

L20 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI **Distillation** of **polymerizable** vinyl aromatic compounds such as **styrene** and ethylbenzene
AN 1941:32637 CAPLUS
DN 35:32637
OREF 35:5131d-e

TI **Distillation** of **polymerizable** vinyl aromatic compounds such as **styrene** and ethylbenzene
IN Dreisbach, Robert R.; Pierce, James E.
PA The Dow Chemical Co.
DT Patent
LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2240764		19410506	US	

AB Apparatus is described, and a mode of operation which involves **distillation** through a **distilling** column containing a **packing** comprising a substantially insol. agent effective in inhibiting **polymerization** of the vinyl aromatic compound, the **packing** extending upward in the column so that the **distilling** vapors must pass through it.

=> d 120 1-10 ti

L20 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthesis and Hydrolysis of Methyl Acetate by Reactive **Distillation** Using Structured Catalytic **Packings**: Experiments and Simulation

L20 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Characterization and catalytic activity of a novel resin-type catalyst

L20 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthesis of MTBE. Influence of crosslinking and **polymer** content on activity and selectivity of **polymer** carrier ion exchange catalysis

L20 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Influence of crosslinking and **polymer** content on activity and selectivity of **polymer**/carrier ion exchange catalysts for the synthesis of MTBE

L20 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of catalytic **polymer**/ceramic ion-exchange **packings** for reactive **distillation** columns

L20 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Study of fouling and antifouling method for gasoline fractionator in ethylene plant

L20 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Preparation of hydrophilic column **packings** using organic **polymers**

L20 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Application of a new ordered **packing** F1 in **styrene** rectification columns

L20 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 TI **Styrene** from pyrolysis gasoline

L20 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Catalyst structure

=> logoff hold

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	133.88	134.09
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-14.55	-14.55

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LOGINID:SSSPTA1623PAZ

PASSWORD:

* * * * * RECONNECTED TO STN INTERNATIONAL * * * * *
 SESSION RESUMED IN FILE 'CAPLUS' AT 08:37:52 ON 26 FEB 2004
 FILE 'CAPLUS' ENTERED AT 08:37:52 ON 26 FEB 2004
 COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	133.88	134.09
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-14.55	-14.55

=> d his

(FILE 'HOME' ENTERED AT 06:10:31 ON 26 FEB 2004)

FILE 'CAPLUS' ENTERED AT 06:10:44 ON 26 FEB 2004

L1 3818 GAS INJECTION
 L2 402843 ACRYL?
 L3 20 L1 AND L2

L4 1868920 POLYM?
 L5 159 L1 AND L4
 L6 72711 PACKING
 L7 18 L1 AND L6
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 L11 15009 CORRUG?
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 L14 44 L4 AND L13
 L15 10957 L4 AND L6
 L16 992 L2 AND L15
 L17 22 L8 AND L16
 L18 252537 STYRENE
 L19 810 L18 AND L15
 L20 24 L8 AND L19

=> packing layer

69768 PACKING
 6972 PACKINGS
 72711 PACKING
 (PACKING OR PACKINGS)
 1072420 LAYER
 479972 LAYERS
 1315819 LAYER
 (LAYER OR LAYERS)
 L21 210 PACKING LAYER
 (PACKING(W) LAYER)

=> l21 and l11

L22 9 L21 AND L11

=> d l22 1-9 ti

L22 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Preparation of wire-mesh honeycomb coated with alumina-encapsulated aluminum layer

 L22 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Modifications to structured packings to increase their capacity

 L22 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Regular packing for heat- and mass-transfer apparatus

 L22 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Influence of structural parameters of **corrugated** plate packing on its performances

 L22 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Configuration analysis and improvement measures of structured packing in desorption column

 L22 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Chemical process tower deentrainment assembly for vapor-liquid mass transfer

 L22 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Gas-liquid contacting packed columns with specified packing material blocks and liquid distributors

 L22 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Modeling and measurement of gas flow distribution in **corrugated**

sheet structure packings

L22 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

TI Ordered column packing for diffusion processes

=> d 122 1-9 ti fbib abs

L22 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

TI Preparation of wire-mesh honeycomb coated with alumina-encapsulated aluminum layer

AN 2003:440721 CAPLUS

DN 139:183598

TI Preparation of wire-mesh honeycomb coated with alumina-encapsulated aluminum layer

AU Yang, K. S.; Jiang, Z. D.; Chung, J. S.

CS Department of Chemical Engineering, Pohang University of Science and Technology, Pohang, 790-784, S. Korea

SO Advances in Science and Technology (Faenza, Italy) (2003), 33(10th International Ceramics Congress, 2002, Part D), 403-410

CODEN: ASETES

PB Techna

DT Journal

LA English

AB We developed a new design of wire-mesh honeycomb (WMH) which is a metallic monolith constructed by **packing layers** of flat and **corrugated** wire-mesh sheets alternatively within a frame. Aluminum powder was coated on the wire meshes using electrophoretic deposition (EPD). The Al particles were well adhered onto the substrate and the thickness of coated layer was .apprx.100µm. Thin Al₂O₃ layer was formed in the outer surface of the Al particles after calcination, completely encapsulating each Al particles. It has porous structure with a large surface area. The Al/Al₂O₃-coated WMH was wash-coated with Pt/TiO₂ catalyst and applied for catalytic combustion of benzene. It showed better activity compared with the conventional ceramic honeycomb.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

TI Modifications to structured packings to increase their capacity

AN 2003:156505 CAPLUS

DN 138:306028

TI Modifications to structured packings to increase their capacity

AU Bender, P.; Moll, A.

CS Linde AG, Hollriegelskreuth / Munich, Germany

SO Chemical Engineering Research and Design (2003), 81(A1), 58-67

CODEN: CERDEE; ISSN: 0263-8762

PB Institution of Chemical Engineers

DT Journal

LA English

AB The hydraulic performance of structured packed columns is characterized by parameters such as loading point, flooding point, and dry and wet pressure-drop. These parameters can be pos. influenced by optimizing the transition areas between two adjacent **packing layers**. Tests have been done in a two-phase test rig with a rectangular column made of perspex. The test medium is a liquid hydrocarbon in counterflow to saturated nitrogen gas. The performance of different packing structures at the layer-to-layer transition zone and the addition of vane-type elements between two **packing layers** was evaluated. Several packing modifications were tested and the results were compared with those of a non-modified packing. The intentions of this work are: to rank the modifications of structured packings with respect to the achieved capacity increase; to determine whether flooding is initiated in the core of the

corrugated packing or in the transition area in spite of the modifications made on the lower or top side of the packing sheets; and to find out how the loading point is influenced by the modifications.

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI Regular packing for heat- and mass-transfer apparatus
AN 2003:82738 CAPLUS
DN 138:305876
TI Regular packing for heat- and mass-transfer apparatus
IN Zibert, G. K.; Kashchitskii, Yu. A.; Kulikova, S. N.
PA Dochernee Otkrytoe Aktsionernoe Obshchestvo "Tsentral'noe Konstruktorskoe Byuro Nefteapparatury" Otkrytogo Aktsionernogo Obshchestva "Gazprom", Russia
SO Russ., No pp. given
CODEN: RUXXE7
DT Patent
LA Russian

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	RU 2188706	C1	20020910	RU 2001-101106	20010115
				RU 2001-101106	20010115

AB The packing consists of vertical **corrugated** sheets with projecting **corrugations** in contact; each **corrugation** is made with inversely concave elements which are located at points of intersection of parallel lines with edges of **corrugations**. Transversal notches are made on **corrugations** along parallel lines at points of intersection with edges of **corrugations**; inversely concave elements in form of trapezia which are so bent that a bent line lies on an inversely concave edge of **corrugation**. **Corrugations** along parallel lines at points of their intersection with fins of **corrugations** are provided with transversal notches; inversely concave elements in form of triangles whose bases are equal to a length of notches and vertices located on edges of **corrugations** are made at each notch; they are so bent that lines of bend lie on inversely concave edges of **corrugations**; notches with inversely concave elements are also made on **corrugations** on back side of sheet. Parallel lines intersecting the edges of **corrugations** at point of location of inversely concave elements are located at an angle of 60-90° relative to the edge of **corrugations**. Perforated sheets or meshes are mounted between **corrugated** sheets; sizes of their meshes ensure a continuous liquid flow. The arrangement enhances efficiency of mass and heat exchange due to turbulization of flows inside the **packing layer**. The packing is suitable for processes of rectification, absorption, purification, and drying of natural gas, as well as mixing of liquid and gas flows, separating phases in separating units, as a contact element in mixing condensers for all technol. processes of petroleum and gas industry.

L22 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI Influence of structural parameters of **corrugated** plate packing on its performances
AN 2002:357711 CAPLUS
DN 137:21820
TI Influence of structural parameters of **corrugated** plate packing on its performances
AU Jia, Shaoyi; Sun, Yongli; Zhao, Jinduo; Wu, Songhai; Xing, Yikun
CS School of Chemical Engineering, Tianjin University, Tianjin, 300072, Peop. Rep. China
SO Huagong Xuebao (Chinese Edition) (2002), 53(4), 364-368

CODEN: HUKHAI; ISSN: 0438-1157

PB Huaxue Gongye Chubanshe, Huagong Xuebao Bianjibu

DT Journal

LA Chinese

AB The effect of structural parameters of **corrugated** plate packing on its performance of axial mixing in liquid phase and hydrodynamic and mass transfer performance is investigated in a 300 mm diameter packing tower. The axial backmixing parameter, Pe , increases with increasing opening ratio, ϕ , and the inclination angle, β , and with decreasing the unit height of the packing. The axial backmixing parameter, Pe , increases with increasing opening ratio, ϕ , and the inclination angle, β , and with decreasing the unit height of the packing, H , and that the pressure drop of **packing layer**, $\Delta p/Z$, decreased with increasing ϕ and H and with decreasing β and that the height of mass transfer unit HOG decreased with increasing β and with decreasing H , and that effect ϕ on the HOG had a suitable value. Through regressing exptl. data, the correlation of the Pe and $\Delta p/Z$, and the HOG were obtained. The results can be used in the development and design of **corrugated** plate packing.

L22 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

TI Configuration analysis and improvement measures of structured packing in desorption column

AN 1999:356178 CAPLUS

DN 131:60408

TI Configuration analysis and improvement measures of structured packing in desorption column

AU Chen, Yuping

CS Hubei Zaoyang Chemical Industry General Corp., 441200, Peop. Rep. China

SO Huafei Gongye (1999), 26(2), 56-57

CODEN: HUGOFO; ISSN: 1006-7779

PB Huafei Gongye Bianjibu

DT Journal

LA Chinese

AB Problems existed in configuration design of structured packing (250Y metal plate **corrugated** structured packing) in desorption column were discussed, such as improper design and setting of fluid distributor, improper height distribution of **packing layers**, etc. Proposals were put forward to improve fluid distributor and height of packing and column.

L22 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

TI Chemical process tower deentrainment assembly for vapor-liquid mass transfer

AN 1998:87660 CAPLUS

DN 128:129577

TI Chemical process tower deentrainment assembly for vapor-liquid mass transfer

IN Lee, Adam T.; Wu, Kuang; Burton, Larry; Fan, Leon

PA Koch Enterprises, Inc., USA

SO PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9803258	A1	19980129	WO 1997-US12767	19970722
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

US 5762668	A	19980609	US 1996-685482 A	19960724
CA 2261146	AA	19980129	US 1996-685482	19960724
			CA 1997-2261146	19970722
AU 9739613	A1	19980210	US 1996-685482 A	19960724
AU 713193	B2	19991125	AU 1997-39613	19970722
			US 1996-685482 A	19960724
ZA 9706490	A	19980219	WO 1997-US12767W	19970722
			ZA 1997-6490	19970722
EP 914204	A1	19990512	US 1996-685482 A	19960724
			EP 1997-936986	19970722
			R: BE, CH, DE, ES, FR, GB, IT, LI, NL	
			US 1996-685482 P	19960724
BR 9710512	A	20000111	WO 1997-US12767W	19970722
			BR 1997-10512	19970722
			US 1996-685482 A	19960724
JP 2001506913	T2	20010529	WO 1997-US12767W	19970722
			JP 1998-507169	19970722
			US 1996-685482 A	19960724
			WO 1997-US12767W	19970722
TW 384235	B	20000311	TW 1997-86110533	19970724
			US 1996-685482 A	19960724

AB A deentrainment assembly for a mass transfer tray is described for a chemical process tower. The apparatus comprises a structured **packing layer** (e.g., **corrugated** sheet packing) assembled with a second type of **packing layer** (e.g., wire mesh) provided adjacent the underside of a mass transfer tower tray. A metal or plastic grid secures the assembly to the underside of the tray. The dual layer reduces liquid entrainment in ascending vapor flow and provides an addnl. region for mass transfer. In an example, the trays were used in distillation columns.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
TI Gas-liquid contacting packed columns with specified packing material blocks and liquid distributors
AN 1995:682713 CAPLUS
DN 123:59874
TI Gas-liquid contacting packed columns with specified packing material blocks and liquid distributors
IN Yoshimatsu, Yukyoshi; Harada, Susumu; Someya, Kazuo
PA Hitachi Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07080279	A2	19950328	JP 1993-229851	19930916
				JP 1993-229851	19930916

AB In the title packed column comprising multistage **packing layers** formed from **corrugated** thin-layered articles having alternately arranged wave-shaped grooves between adjacent articles, and contacting a descending liquid with an ascending gas, the packing materials are divided into plural blocks, the outer walls of the packing materials are adjoined with the inner wall of the column, and approx. L-shaped liquid distributors having their vertical sides arranged between the outer circumferences of the packing materials and the inner wall of

the column, and their horizontal sides arranged between the packing material blocks resp. Deformation of packing materials is prevented; separation efficiency is increased; pressure loss is lowered. The packed columns are especially suitable for rectification and cooling columns in air separation apparatus for separating O, N and Ar from air.

L22 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Modeling and measurement of gas flow distribution in **corrugated** sheet structure packings
 AN 1994:167768 CAPLUS
 DN 120:167768
 TI Modeling and measurement of gas flow distribution in **corrugated** sheet structure packings
 AU Stoter, F.; Olujic, Z.; de Graauw, J.
 CS Lab. Process Equip., Delft Univ. Technol., Delft, 2628 CA, Neth.
 SO Chemical Engineering Journal (Amsterdam, Netherlands) (1993), 53(1), 55-66
 CODEN: CMEJAJ; ISSN: 0300-9467
 DT Journal
 LA English
 AB A math. model and calcn. procedure are developed for the gas flow distribution in channels formed between tightly packed, **corrugated**, unperforated metal sheets. The model is a discrete cell model based on average mass, momentum and energy balance equations for each of numerous crossings of gas flow channels, with characteristic friction factors for gas inlet, bulk zone and wall zone as model parameters, which can be easily obtained from pressure drop measurements for each type and size of structured packing. The model enables prediction of velocity profiles leaving an element of **packing layer** consisting of segments of unperforated, structure packing. It is also suited for perforated packings which under operating (wetted) conditions function as a closed surface packing.

L22 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Ordered column packing for diffusion processes
 AN 1990:481069 CAPLUS
 DN 113:81069
 TI Ordered column packing for diffusion processes
 IN Braun, Vlastimil
 PA Czech.
 SO Czech., 5 pp.
 CODEN: CZXXA9
 DT Patent
 LA Czech
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CS 263904	B1	19890512	CS 1987-3265	19870507
				CS 1987-3265	19870507

AB The title packing consists of parallel offset **packing layers** which fill the complete cross section of the column, each layer being made substantially from vertical parallel walls. The vertical walls are made from material having capillary properties, e.g., glass fibers, and are equipped with supporting tape at the top and bottom edges and, optionally, also in the middle. **Corrugated** vertical spacers made from solid material (e.g., metals, plastics, or ceramics) are fastened to the supporting tape at uniform spacings. The spacers are equipped with openings at least in the top part, and have bent spaced-apart holes in the longitudinal edges. Optionally, the spacers between the top and bottom supports are connected with ≥ 1 addnl. spacers.

=> logoff hold

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
FULL ESTIMATED COST	ENTRY	SESSION
	169.79	170.00
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
CA SUBSCRIBER PRICE	ENTRY	SESSION
	-20.79	-20.79

SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 08:46:35 ON 26 FEB 2004

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:

* * * * * RECONNECTED TO STN INTERNATIONAL * * * * *
SESSION RESUMED IN FILE 'CAPLUS' AT 09:30:59 ON 26 FEB 2004
FILE 'CAPLUS' ENTERED AT 09:30:59 ON 26 FEB 2004
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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
FULL ESTIMATED COST	ENTRY	SESSION
	169.79	170.00
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
CA SUBSCRIBER PRICE	ENTRY	SESSION
	-20.79	-20.79

=> d his

(FILE 'HOME' ENTERED AT 06:10:31 ON 26 FEB 2004)

FILE 'CAPLUS' ENTERED AT 06:10:44 ON 26 FEB 2004

L1 3818 GAS INJECTION
L2 402843 ACRYL?
L3 20 L1 AND L2
L4 1868920 POLYM?
L5 159 L1 AND L4
L6 72711 PACKING
L7 18 L1 AND L6
L8 353964 DISTILL?
L9 38 L1 AND L8
L10 1 L4 AND L9
L11 15009 CORRUG?
L12 2 L1 AND L11
L13 542 L6 AND L11
L14 44 L4 AND L13
L15 10957 L4 AND L6
L16 992 L2 AND L15
L17 22 L8 AND L16
L18 252537 STYRENE
L19 810 L18 AND L15
L20 24 L8 AND L19
L21 210 PACKING LAYER
L22 9 L21 AND L11

=> Ry

1844 RY
316 RIES
L23 2160 RY
(RY OR RIES)

=> 18 and 123
L24 31 L8 AND L23

=> d 124 21-31 ti

L24 ANSWER 21 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI Some reactions of an optically active diazonium salt and of an optically active diacyl peroxide

L24 ANSWER 22 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI Substituted ethylenediamines

L24 ANSWER 23 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI Tetraalkyllead compounds

L24 ANSWER 24 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI Mixed mercaptal-acetals

L24 ANSWER 25 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI Lubricating-oil detergent

L24 ANSWER 26 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI Report of Committee XVII-wood preservation

L24 ANSWER 27 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI Report of Committee IV on preservatives

L24 ANSWER 28 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI Report of Committee 4 on [wood] preservatives

L24 ANSWER 29 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI Report Chief Inspector of Bureau for Safe Transportation of Explosives and Other Dangerous Articles

L24 ANSWER 30 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI The Strength of Treated Timber. Report of the Committee on Wood Preservation of the Am. Railway English and Maintenance of Way Assn

L24 ANSWER 31 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI Modern Timber Preservation

=> rmax
L25 1447 RMAX

=> d 124 10-20 ti

L24 ANSWER 10 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI Reactions with microorganisms. XII. Stereospecificity of the reduction of the double bond in (±)-9-methyl-Δ⁴-octalin-3,8-dione with *Curvularia falcata*

L24 ANSWER 11 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthetic reactions of dimethylformamide. XVII. Preparation of acylmalonic dialdehydes by formylation of trimethinium salts

L24 ANSWER 12 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
TI Organopolysiloxanes

L24 ANSWER 13 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Isocyanatoaryl derivatives of phosphates and thiophosphates

L24 ANSWER 14 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Antibacterial compounds. I. Synthesis of several **ry** droxy chloro
 chalcones

L24 ANSWER 15 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Antispasmodics

L24 ANSWER 16 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
 TI N-(2-Substituted-thiophenyl)-N-phenylalkylenediamines

L24 ANSWER 17 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Insecticides

L24 ANSWER 18 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Derivatives of 4-(diethylaminoethoxy)diphenylpropane

L24 ANSWER 19 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Quaternary ammonium salts of δ -hydrocarboxyphenyl- γ -hydroxy
 amines

L24 ANSWER 20 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Derivatives of phenothiazine

=> d 124 20 ti fbib abs

L24 ANSWER 20 OF 31 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Derivatives of phenothiazine
 AN 1956:36301 CAPLUS
 DN 50:36301
 OREF 50:7153h-i,7154a
 TI Derivatives of phenothiazine
 PA Societe des usines chimiques de Rhone-Poulenc
 DT Patent
 LA Unavailable
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 724217		19550216	GB	

AB x, 10-**RY**(CH₂)₃R' (I) are prepared where x = 2 or 4, R = alkyl or alkoxy, Y = the phenothiazine nucleus (C.A. numbering), and R' = an amino group. To 10.6 g. 2-MeY, m. 187-8° (from S and 3-MeC₆H₄CH₂Ph), 40 g. xylene, and 2.53 g. 90% NaNH₂ is added 8 g. Me₂N(CH₂)₃Cl in 8 g. xylene during 1 hr. at reflux, refluxing continued 1 hr., the mixture cooled, taken up in 150 cc. water, and slightly acidified with HCl, the organic layer decanted, the aqueous layer made strongly alkaline with caustic soda, and the base extracted with ether and **distilled** to yield 11.6 g. 2,10-MeY(CH₂)₃NMe₂, b0.1 180-8°; HCl salt, m. 194°. I(x = 2, R = Me, R' = pyrrolidino) b0.15 207-12°; oxalate, m. 175°. The following I are also reported (x = 2 or 4, but not further specified; R and R' given): MeO, pyrrolidino, b0.1 205-7° (HCl salt, m. 143-5°); MeO, Me₂N, b0.1 198-202° (HCl salt, m. 170-95°); EtO, Me₂N, b0.15 212-16° (oxalate, m. 157-8°); BuO, Me₂N, b0.15 202-5° (oxalate, m. 154°); PrO, Me₂N, b0.15 211° (oxalate, m. 178-9°; MeI salt, m. 70°). These compds. possess specific advantage as potentiators of general and local anesthetics and of analgesics. Cf. following abstract

=> l25 and l8

L26 7 L25 AND L8

=> d l26 1-7 ti

L26 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Dynamics within a yard-waste compost biofilter during a ammonia biotransformation

L26 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI The involvement of smooth muscle P2X receptors in the prolonged vasorelaxation response to purine nucleotides in the rat mesenteric arterial bed

L26 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Stabilization of purified trimethoxysilane by storing in metal container

L26 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Procedure for the preparation of proton-free deuterated chloroform

L26 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Minimum reflux ratio and possibility of energy saving on a plate-to-plate heat-integrated **distillation** column

L26 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Pulses of electrohydrodynamic sonoluminescence accompanying a high-voltage electric discharge in water

L26 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Batch fractionation. Calculation of theoretical plates required for separation of two normal liquids

=> d l26 5 ti fbib abs

L26 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

TI Minimum reflux ratio and possibility of energy saving on a plate-to-plate heat-integrated **distillation** column

AN 1988:77845 CAPLUS

DN 108:77845

TI Minimum reflux ratio and possibility of energy saving on a plate-to-plate heat-integrated **distillation** column

AU Nakaiwa, Masaru; Owa, Masaru; Akiya, Takaji; Kawasaki, Shigetake; Sato, Masahito; Lueprasitsakul, Veerapot; Takamatsu, Takeichiro

CS Natl. Chem. Lab. Ind., Tsukuba, 305, Japan

SO Sekiyu Gakkaishi (1988), 31(1), 81-6

CODEN: SKGSAE; ISSN: 0582-4664

DT Journal

LA Japanese

AB A plate-to-plate heat-integrated **distillation** column, with a compressor and a throttling valve between the rectifying section and the stripping section and heat exchange between these sections, is considered. The rectifying section is operated at a higher temperature than the stripping section by compressing the vapor from the stripping section. The total vapor flow and liquid flow rates decrease gradually with heat exchange, toward the top in the rectifying section and toward the bottom in the stripping section. The external reflux ratio is less than the min. reflux ratio of a conventional column. The min. reflux was determined theor. The amount of energy required for the separation was estimated by simulating the

model

the system. The states of min. reflux were determined in 3 conditions and the possible amount of energy reduction was obtained by calculating the loads on the

reboiler and the condenser from the external reflux ratio and on the compressor from the reflux ratio (**RMAX**) at the bottom stage of the rectifying section and operating pressures of the two sections. The min. value of the compressor load can be obtained from the min. condition of **RMAX**.

=> logoff hold

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
190.70	190.91

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-22.18	-22.18

CA SUBSCRIBER PRICE

SESSION WILL BE HELD FOR 60 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 09:34:59 ON 26 FEB 2004